

Date: Tue, 30 Nov 93 04:30:29 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V93 #118
To: Ham-Homebrew

Ham-Homebrew Digest Tue, 30 Nov 93 Volume 93 : Issue 118

Today's Topics:

1 TUBE transmitter for QRP
24 volt device on 12 volt
 Information
 QRP phone- ideas?
 sw-radio coils...question.
Upgrade to a Micor (2 msgs)
W7EL's Optimized rig: saga continues

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>

Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 29 Nov 1993 16:48:56 GMT
From: library.ucla.edu!europa.eng.gtefsd.com!avdms8.msfc.nasa.gov!
news.larc.nasa.gov!grissom.larc.nasa.gov!kludge@network.ucsd.edu
Subject: 1 TUBE transmitter for QRP
To: ham-homebrew@ucsd.edu

In article <1993Nov26.233611.11152@cyphyn.radnet.com> randy@cyphyn.radnet.com
(Randy) writes:

>

>Note...a 6CL6 or 12BY7 (different socket wiring) will work the same
>as this one will....so, a sub of tube (and rewire socket) can be done.
>Those 2 tubes are 9 pin mini tubes
>12HG7 will sub 12BY7 directly. (if ya need info on that, buzz me)

I'd bet that if you tweaked voltages a bit, you'd be able to use a 6L6
in that circuit as well, and get a significant amount more power out of

it. The 6L6 on 80M is good for about 25W in a single-tube design, or maybe 15W on 40M. You can even do 10M with the thing, but the interelectrode capacitance kills you; you get about 2W with the plate glowing cherry red.

--scott

(whose first transmitter used four 6L6s and a 12AX7)

--

"C'est un Nagra. C'est suisse, et tres, tres precis."

Date: Sun, 28 Nov 1993 18:22:43 GMT

From: swrinde!cs.utexas.edu!howland.reston.ans.net!agate!iat.holonet.net!pubcon!
brian.oakley@network.ucsd.edu

Subject: 24 volt device on 12 volt

To: ham-homebrew@ucsd.edu

my guess is that by lowering the voltage, you are also lowering the power output to the antenna. therefore, say if youre puttint out 100 watts, if all the power is reflected back in phase, you will have 200 watts total at the transistor. now, having said that, seeing that $p=EI$, assuming the voltage is half of the original, if you use a device capable of handling 200 watts, it should be ok, but at the higher voltage, power is increased and therefor exceeds the power limitation of the device. that is my guess. as far as the differences between fets and bipolar devices, as i recall a bipolar is a current driven current output device. i dont think voltage will matter much in its operation unless it has a minimum operating voltage in the specs. the fet is a voltage controlled current supply divice so voltage could oops should not effect it either. thats my thinking, but im not an expert on transistors by a longshot. i had a hard time with that course. :) 73 wb5kxw

Date: Mon, 29 Nov 1993 20:08:19 UTC

From: qualcomm.com!vixen.cso.uiuc.edu!howland.reston.ans.net!pipex!uknet!EU.net!
sunic!trane.uninett.no!news.eunet.no!nuug!news.eunet.fi!

anon.penet.fi@network.ucsd.edu

Subject: Information

To: ham-homebrew@ucsd.edu

INFORMATIONAL REPORTS

- How to trick pay phones into thinking you deposited money
- How to clone cellular phones
- How to make traffic lights turn green by remote control

- How to build and use a bugging device
- How to make your electric meter go backwards
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Due to the double-blind, any mail replies to this message will be anonymized,
and an anonymous id will be allocated automatically. You have been warned.
Please report any problems, inappropriate use etc. to admin@anon.penet.fi.

Date: 29 Nov 1993 15:45:41 GMT
From: muninari.oz.au!bruce.cs.monash.edu.au!harbinger.cc.monash.edu.au!msuinfo!uwm.edu!vixen.cso.uiuc.edu!ux1.cso.uiuc.edu!peter@network.ucsd.edu
Subject: QRP phone- ideas?
To: ham-homebrew@ucsd.edu

Does anybody have decent experience with a rig to do phone on QRP, something
lightweight, low power? If there's anyone who's messed with this, please
respond with some ideas on where I could build such a rig via e-mail. Thanks.
Andy N9NTI

--
We're just two lost souls swimming in a | If the University saw things my
fish bowl, year after year. Running over | way, they wouldn't raise tuition!
The same old ground, what have we found? | Andy Peterson, N9NTI /--/--/
The same old fears.. wish you were here.. | "I only do code in C." |

Date: 29 Nov 93 14:32:42 GMT
From: psinnntp!arrl.org@uunet.uu.net
Subject: sw-radio coils...question.

To: ham-homebrew@ucsd.edu

In rec.radio.amateur.homebrew, st92ba44@dunx1.ocs.drexel.edu (antonio gatta) writes:

>Hello there.

> I'm not sure if this is the right place to ask but the title seemed
> appropriate (and I couldn't find a faq). Anyhows, I'm working on
> a crystal shortwave radio which requires a t-50-2 toroid core onto
> which the coil is wound. I'm wondering if a straight (bar) ferrite

They are similar in that both are used to increase the inductance of a coil. However, type 2 iron powder of 10, while ferrite materials usually have a much higher permeability (though some VHF materials have a similar permeability). Ferrites typically have higher loss, though I've seen inductors wound on type 67 material with low loss. Many will have 1 to 2 magnitudes more loss. Ferrites are often less frequency stable.

You might consider replacing the coil with an air core inductor, which will also have low loss and probably even better frequency stability. A problem is the large field generated by air core inductors unless shielded--you can probably fine tune the circuit by waving your hand around it!

People have wound these on a cardboard form, though styrofoam would probably have a little less loss. Books such as the ARRL Handbook tell you equations for finding out the inductance of both toroidal and solenoidal inductors.

Zack Lau KH6CP/1

Internet: zlau@arrl.org "Working" on 24 GHz SSB/CW gear

Operating Interests: 10 GHz CW/SSB/FM

US Mail: c/o ARRL Lab 80/40/20 CW

225 Main Street Station capability: QRP, 1.8 MHz to 10 GHz

Newington CT 06111 modes: CW/SSB/FM/packet

amtor/baudot

Phone (if you really have to): 203-666-1541

> core wouldn't achieve the same end. (Plus, I can't find the toroid
> around here--I'm rather close to finishing it so ordering it would
> most likely kill me :)
> If the bar does work, could anyone give me a tip on how
> many turns (of wire) it would need.

Date: Mon, 29 Nov 1993 16:33:32 GMT

From: library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!

news.moneng.mei.com!uwm.edu!ginews!don@network.ucsd.edu
Subject: Upgrade to a Micor
To: ham-homebrew@ucsd.edu

In article <4eVJDc2w165w@inqmind.bison.mb.ca> bills@inqmind.bison.mb.ca (Bill Shymanski) writes:

> At our last executive meeting, I was
> told we've had a complaint that our "flagship" repeater has
> a front end so broad that it lets in calls 20 khz off-channel -
> this is well past the adjacent channel and getting into the
> deep woods. The VHF receiver is a Micor mobile, with the
> usual adaptations to repeater service. Is it possible to
> get some third-party upgrade filter to tighten the response
> a bit, and upgrade this - or should we start saving
> up for a commercially built repeater ?

Hi Bill,

Most MICOR units have very good front ends on them. However, there were some units that were built with a DVP unit that have a 24KHz passband in the IF. If you converted one of those units and did not modify the IF passband, then that could be your problem.

Donald D. Woelz, K9GR	Office Phone: 414-644-8700
GENROCO, Inc.	K9GR @WB9TYT.#MKE.WI.USA.NOAM
205 Kettle Moraine Drive North	k9gr@k9gr.ampr.org [44.92.1.48]
Slinger, WI 53086 U.S.A.	don@genroco.com

Date: Sun, 28 Nov 1993 15:24:09 GMT
From: ucsnews!sol.ctr.columbia.edu!emory!kd4nc!ke4zv!gary@network.ucsd.edu
Subject: Upgrade to a Micor
To: ham-homebrew@ucsd.edu

In article <4eVJDc2w165w@inqmind.bison.mb.ca> bills@inqmind.bison.mb.ca (Bill Shymanski) writes:

> Never volunteer to be on the technical committee of a repeater
> club unless you have some idea of what's involved:
> Anyway....I'm a member of a repeater group that is currently
> involved in interconnecting repeater sites in several spots
> in southern Manitoba. At our last executive meeting, I was
> told we've had a complaint that our "flagship" repeater has
> a front end so broad that it lets in calls 20 khz off-channel -
> this is well past the adjacent channel and getting into the
> deep woods. The VHF receiver is a Micor mobile, with the
> usual adaptations to repeater service. Is it possible to
> get some third-party upgrade filter to tighten the response

>a bit, and upgrade this - or should we start saving
>up for a commercially built repeater ?
>(And is this problem related to the fact that the repeater is
>on a CBC broadcast tower with 100,000 watts of various
>broadcast transmitters on it ?)

Bill, Micor receivers aren't as good as it gets, but they are close. So if the Micor is picking up 20 kHz off channel signals, and it's working properly, then just about any other receiver placed at the site will suffer the same fate. However, the Micor *shouldn't* be having this problem. The IF filtering is quite good. What this likely means is that your Micor is sick.

Here's what I would do. First I'd look at the LO output with the spectrum analyzer to see if it's got noise spurs. This could be bringing out of bandpass signals onto the IF frequency. If the result of this test is negative, I'd run a response curve for the receiver. Sweep across the channel input and observe the limiter current with a scope synced to the tracking generator. (Most spectrum analyzers will allow for this type of connection.) The response should be at least 60 db down at the +/- 20 kHz points. If this test is passed as well, then the basic receiver is not at fault. Obviously if it fails one of these tests, do the appropriate repairs.

Another possibility is that some of that high power crud is getting into the front end of the receiver and generating spurious mixing products that mix with off channel signals and bring them into the bandpass. I'm assuming you're doing like most people and using only notch duplexers for the repeater. I'd try adding a pass cavity to the receiver side and see if that helps.

Finally, it may not be a repeater problem at all. It could be that some local user types are running their rigs "all knobs to the right" and generating very broad signals. You didn't say whether the received signals were clear or not. If all you're getting is buckshot, I'd start DFing some users with bad radios after I'd determined the Micor receiver was operating properly. (You don't see this problem too often with modern Japanese equipment, but some of the older rigs were quite bad.)

Gary

--

Gary Coffman KE4ZV	Where my job's going,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	I don't know. It might	uunet!rsiatl!ke4zv!gary
534 Shannon Way	wind up in Mexico.	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244	-NAFTA Blues	

Date: 29 Nov 1993 17:26:09 GMT
From: library.ucla.edu!agate!howland.reston.ans.net!math.ohio-state.edu!
news.acns.nwu.edu!casbah.acns.nwu.edu!rdewan@network.ucsd.edu
Subject: W7EL's Optimized rig: saga continues
To: ham-homebrew@ucsd.edu

This is as a follow up on my earlier tale of woe in which I mentioned
the low VFO output. I thank all, including W7EL, who replied.

I replaced the FET and the VFO output came right up to 5vpp with the
buffer output at 2.4vpp.

I replaced the receive section of W7EL's Optimized rig with Rick Campbell's
R1. For a test, I hooked up an antenna and the oscillator (thru the
buffer) to the SBL-1 mixer in the R1. The receiver seems quite
insensitive. Only signals S7 or better were audible on the receiver. It
is quite deaf.

On to more fun ...

Rajiv
aa9ch
r-dewan@nwu.edu

End of Ham-Homebrew Digest V93 #118

